611-TD-551-001

EOSDIS Core System Project

M&O Procedures
Section 14—Production Processing

Interim Update

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Raytheon Systems Company
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Preface

This document is an interim update to the Mission Operations Procedures Manual for the ECS Project, document number 611-CD-551-001. This document has not been submitted to NASA for approval, and should be considered unofficial.

The document has been updated to include guidelines for force-starting jobs and putting jobs "on ice" or "on hold." In addition, the procedures that include the use of secure shell have been corrected to remove references to xhost. Furthermore, some minor editorial changes have been made.

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14. Production Processing

The Data Processing Subsystem provides a batch processing environment to support the generation of data products. It manages, queues, and executes Data Processing Requests (DPR) on the processing resources at a DAAC. A DPR can be defined as one science processing job. Each DPR encapsulates all of the information needed to execute the processing job. DPRs are submitted from the Planning Subsystem and their processing is triggered by the availability of their input data.

DPRs use Product Generation Executives (PGEs) to perform processing. PGEs result from the integration and test of delivered science algorithms and also user-specific methods in the Data Processing Subsystem. They are encapsulated in the ECS environment through the SDP Toolkit. The Data Processing Subsystem provides the operational interfaces needed to monitor the execution of science software PGEs.

Each procedure outlined will have an **Activity Checklist** table that will provide an overview of the task to be completed. The outline of the **Activity Checklist** is as follows:

Column one - ***Order*** shows the order in which tasks should be accomplished.

Column two - ***Role*** lists the Role/Manager/Operator responsible for performing the task.

Column three - ***Task*** provides a brief explanation of the task.

Column four - ***Section*** provides the *Procedure (P)* section number or *Instruction (I)* section number where details for performing the task can be found.

Column five - ***Complete?*** is used as a checklist to keep track of which task steps have been completed.

The following Activity Checklist, Table 14.1-1, provides an overview of production processing.

Table 14.1-1. Production Processing - Activity Checklist (1 of 2)

Order	Role	Task	Section	Complete?
1	Production Monitor	Launch the AutoSys GUI Control Panel	(P) 14.1.1	
2	Production Monitor	Configure AutoSys/AutoXpert Runtime Options	(P) 14.1.2	
3	Production Monitor	Configure Hardware Groups	(P) 14.1.3	
4	Production Monitor	Review Hardware Status	(P) 14.2.1	
5	Production Monitor	Select Hardware Status View Options	(P) 14.2.2	
6	Production Monitor	Review DPR Dependencies	(P) 14.3	
7	Production Monitor	Review DPR Production Timeline	(P) 14.4	
8	Production Monitor	Review Alarms	(P) 14.5.1	
9	Production Monitor	Select Alarms for Alarm Manager Display	(P) 14.5.2	

Table 14.1-1. Production Processing - Activity Checklist (2 of 2)

Order	Role	Task	Section	Complete?
10	Production Monitor	Specify Job Selection Criteria	(P) 14.6.1	
11	Production Monitor	Review Job Activities Using the AutoSys Job Activity Console	(P) 14.6.2	
12	Production Monitor	Determine the Ownership of an AutoSys Job	(P) 14.7.1	
13	Production Monitor	Modify Job Status	(P) 14.7.2	
14	Production Monitor	Cancel a Sent Event	(P) 14.7.3	
15	Production Monitor	Perform Job Management Functions	(P) 14.7.4	
16	Production Monitor	Review Activity Log	(P) 14.8.1	
17	Production Monitor	Review Job Dependency Log	(P) 14.8.2	
18	Production Monitor	Define Monitors/Browsers	(P) 14.9.1	
19	Production Monitor	Run Monitor/Browser from the Monitor/Browser GUI	(P) 14.9.2	
20	Production Monitor	Run Monitor/Browser from the Command Shell	(P) 14.9.3	
21	Production Monitor	Change AutoSys Event Processor Database Maintenance Time	(P) 14.10.1	
22	Production Monitor	Modify the Maximum Number of Jobs in AutoSys	(P) 14.10.2	

14.1 Launch the AutoSys GUI Control Panel and Configure AutoSys Runtime Options

The process of configuring AutoSys begins when the Production Monitor starts the AutoSys graphical user interface (GUI) Control Panel and changes runtime options or uses the vi editor to modify configuration files.

The procedures in this section concern launching the AutoSys GUIs, configuring AutoSys run≠ time options, and configuring AutoSys hardware groups.

14.1.1 Launching the AutoSys GUI Control Panel

The AutoSys GUI Control Panel is invoked from a UNIX command line prompt. Table 14.1-2 presents (in a condensed format) the steps required to launch the AutoSys GUI Control Panel. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 At the UNIX command line prompt enter:

setenv DISPLAY <clientname>:0.0

a.∞ Use either the X terminal/workstation IP address or the machine-name for the clientname.

b. When using secure shell, the DISPLAY variable is set just once, before logging in to remote hosts. If it were to be reset after logging in to a remote host, the security features would be compromised.

2 In the terminal window, at the command line prompt, start the log-in to the Queuing Server by entering:

/tools/bin/ssh <hostname>

a. Examples of hostnames include **e0sps04**, **g0sps06**, **l0sps03**, **n0sps08**.
b. If you receive the message, "Host key not found from the list of known hosts. Are you sure you want to continue connecting (yes/no)?" enter **yes** ("y" alone will not work).
c. If you have previously set up a secure shell passphrase and executed **sshremote**, a prompt to **Enter passphrase for RSA key '<*user@localhost*>'** appears; continue with Step 3.
d. If you have not previously set up a secure shell passphrase, go to Step 4.

3 If a prompt to **Enter passphrase for RSA key '<*user@localhost*>'** appears, enter:

<Passphrase>

a. Go to Step 5.

4 At the **<*user@remotehost*>'s password:** prompt enter:

<Password>

5 In the terminal window, at the command line, enter:

cd /usr/ecs/ <*MODE*>/COTS/autotree/autouser

a. **<MODE>** is current mode of operation.
   1. TS1 - Science Software Integration and Test (SSI&T)
   2. TS2 - New Version Checkout
   3. OPS - Normal Operations
b. "autouser" is the directory containing the AutoSys configuration files.
c. The path may vary with the specific site installation; e.g., the **autotree** directory may be identified as **autotreeb** at some sites.

6 Set the application environment variables by entering:

setenv ECS_HOME /usr/ecs/

source <AUTOSERV_INSTANCE>.autosys.csh.<hostname>

a. Application home environment is entered.
b. When logging in as a system user (e.g., cmshared), the ECS_HOME variable may be set automatically so it may not be necessary to set it manually.
c. **<AUTOSERV_INSTANCE>** (also called an AUTOSYS instance) is installed as part of the Data Processing Subsystem and is identified by three capital letters.
   1. AUTOSERV instances at the DAACs are typically identified as **FMR**.
   2. Configuration files in the **autouser** directory identify the available AUTOSERV instances. For example, **config.FMR** is the configuration file for AUTOSERV instance **FMR**.

7 Launch the **AutoSys GUI Control Panel** by entering:

cd /usr/ecs/ <MODE>/CUSTOM/utilities

EcDpPrAutosysStart <MODE> <AUTOSERV_INSTANCE>

a. The **AutoSys GUI Control Panel** is displayed.

Table 14.1-2. Launch AutoSys GUI Control Panel - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Log in to the ECS System using secure shell	**enter text, press Enter**
2	Set the environment variables	**enter text, press Enter**
3	Enter **cd /usr/ecs/ <MODE>/COTS/autotree/autouser**	**enter text, press Enter**
4	Enter **source <AUTOSERV_INSTANCE>.autosys.csh.<hostname>**	**enter text, press Enter**
5	Enter **cd /usr/ecs/<MODE>/CUSTOM/utilities**	**enter text, press Enter**
6	Enter **EcDpPrAutosysStart <MODE> <AUTOSERV_INSTANCE>**	**enter text, press Enter**

14.1.2 Configuring AutoSys/AutoXpert Runtime Options

The following AutoSys/AutoXpert Runtime Options may be defined by the Production Monitor operator:

a. Refresh Interval - The Refresh Interval is how often the GUI View Region display is updated.
b. Ping Interval - The Ping Interval is defined by how often the connectivity is evaluated.
c. Hang Time - The Hang Time is the length of time jobs continue to be displayed within a machine after they have completed running.
d. Inches/Hour- Inches/Hour specifies how much information is displayed on the screen.

All values are initially set to default values by the AutoSys system.

Table 14.1-3 lists the runtime options available for HostScape, TimeScape, and JobScape. Not all options are available for all GUIs.

HostScape displays jobs on a machine-by-machine basis, indicating which AutoSys server/client machines are up and active, and which jobs are running or have recently run on each machine. This interface is used to monitor hardware status in real-time.

TimeScape presents a Gantt-like view of a job processing from a temporal (or time-related) point-of-view. This interface depicts both “command jobs” and “box jobs.” It also depicts the nesting of jobs within boxes and the duration of time it will take for jobs to complete. This interface is used to monitor job flow in real-time.

JobScape presents a Pert-like view of job processing from a logical (or job dependency) point of view. This interface depicts both “command jobs” and “box jobs.” It also depicts the nesting of jobs within boxes and the dependencies between jobs. This interface can be used to monitor job flow in real-time.

Table 14.1-3. Runtime Options Table

Interface	Refresh Interval	Hangtime	PING	Inches/Hour
HostScape	X	X	X	
TimeScape	X			X
JobScape	X			

Table 14.1-4 presents (in a condensed format) the steps required to configure AutoSys runtime options. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures (perform only those steps applicable to the interface, as defined in Table 14.1-3.):

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on either **HostScape**, **TimeScape**, or **JobScape** button on the **AutoSys GUI Control Panel**.
   a. The desired **GUI** dialog box is displayed.

3 Display the **Runtime Options** dialog box by executing the following menu path:

   Options → Edit Runtime Options

   a. The **Runtime Options** dialog box is displayed.

4 **Single-click Refresh Interval (Seconds)** and enter a value between **1** and **99999**.
   a. Value is entered.
   b. Default value is **30**
   c. **Reloading Job Data** window reappears every **##** seconds.
   d. If Freeze Frame feature is enabled, changes will not take place until it is disabled.

5 **Single-click Ping Interval (Seconds)** (if applicable) and enter a value between **1** and **99999.**
   a. Value is entered.
   b. Default value is **300**
   c. 99999 means no **ping** commands are issued.
   d. If Freeze Frame feature is enabled, changes will not take place until it is disabled.

6 **Single-click Hang Time (Minutes)** (if applicable) and enter a value between **1** and **99999**.
   a. Value is entered.
   b. Default value is **1**
   c. If Freeze Frame feature is enabled, changes will not take place until it is disabled.

7 **Single-click Inches/Hr (inches)** (if applicable) and enter a value between **1** and **###**.
   a. Value is entered.
   b. Default value is **2**
   c. If Freeze Frame feature is enabled, changes will not take place until is disabled.

8 **Single-click Apply**.
   a. The Runtime Options are set.

9 **Single-click OK**.
a. The dialog box closes.

Table 14.1-4. Configure AutoSys Runtime Options - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select either **HostScape**, **TimeScape**, or **JobScape**	**single-click**
3	Execute **Options** → **Edit Runtime Options**	**single-click**
4	Select **Refresh Interval (Seconds)**	**single-click**
5	Enter a value between **1** and **99999**	**enter number**
6	Select **Ping Interval (Seconds)** (if applicable)	**single-click**
7	Enter a value between **1** and **99999** (if applicable)	**enter number**
8	Select **Hang Time (Minutes)** (if applicable)	**single-click**
9	Enter a value between **1** and **99999** (if applicable)	**enter number**
10	Select **Inches/Hr (inches)** (if applicable)	**single-click**
11	Enter value (if applicable)	**enter number**
12	Select **Apply**	**single-click**
13	Select **OK**	**single-click**

14.1.3 Configure Hardware Groups

This section explains how to configure AutoSys hardware groups. The default group is "All Machines." If the Production Monitor needs to monitor specific sets of machines, groups may be defined.

Table 14.1-5 presents (in a condensed format) the steps required to configure AutoSys hardware groups. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 At the UNIX command line prompt enter:

cd /usr/ecs/ <*MODE*>/COTS/autotree/autouser

2 Edit the file called **xpert.groups.<AUTOSERV_INSTANCE>** using an appropriate text editor (e.g., vi).

3 Enter:

groupname: <groupname>

4 Enter:

<machine name>

Groupname: Modis
d0pls01

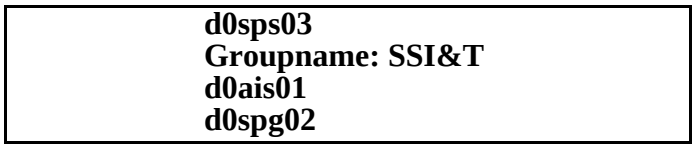


Figure 14.1-1. AutoSys Hardware Group File Example

(Repeat Step 4 for each item in the group.)

Repeat Steps 3 and 4 for additional groups.

5 Save the file.

6 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
a. The **AutoSys GUI Control Panel** is displayed.

7 **Single-click HostScape**.
a. The **HostScape** GUI page is presented.

8 Display the **Machine Group Selection** dialog box by executing the following menu path:

View → Select Machine Group

a. The **Machine Group Selection** dialog box is presented.

9 Select <**machine group**>.
a. The **machine group** is highlighted.

10 **Single-click Apply** button**.**
a. The selected **machine group** is applied.

11 **Single-click OK** button**.**
a. The **Machine Group Selection** dialog box is closed
b. The **HostScape** display should now show the selected group of machines**.**

Table 14.1-5. Configure AutoSys Hardware Groups - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	**cd /usr/ecs/ <MODE>/COTS/autotree/autouser**	**enter text, press Enter**
2	Edit file **xpert.groups.<*AUTOSERV*_INSTANCE>**	**enter text, press Enter**
3	Enter **groupname**: **<groupname>**	**enter text, press Enter**
4	Enter **<machine name >**	**enter text, press Enter**
5	Repeat Steps 3 and 4 as necessary for additional groups/machines	**enter text, press Enter**
6	Save the file	**enter text, press Enter**
7	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
8	Select **HostScape**	**single-click**

Step	What to Enter or Select	Action to Take
9	Execute **View** → **Select Machine Group**	**single-click**
10	Select **<machine group>** to be presented	**single-click**
11	Select **Apply**	**single-click**
12	Select **OK**	**single-click**

14.2 Review Hardware Status

The process of reviewing hardware status begins with the Production Monitor launching AutoSys HostScape. Hardware status is reviewed using the AutoSys HostScape GUI, which allows real-time monitoring.

14.2.1 Review Hardware Status

Table 14.2-1 presents (in a condensed format) the steps required to review hardware status using AutoSys HostScape. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **HostScape** button on the **AutoSys GUI Control Panel**.
   a. The **HostScape** GUI page is presented.
   b. View presented is **Normal** View.

3 Review the Control Region (left side of display) to identify color code for status of machines. This code is displayed on the machine box border in the **View Region**.
   a. **MACHINE UP** (active) is Green.
   b. **MACHINE DOWN** (inactive and cannot be reached) is Red.
   c. Machine Inactive is Black**.** (Not shown in Control Region)

4 Review machine type in **View Region**.
   a. The **machine name** is displayed.
   b. Server machines are in the first (top) row of the display.
   c. Event Server (database server) name appears below list of jobs, if applicable.
   d. Event Processor name appears below list of jobs, if applicable.
   e. Client machines are in the subsequent rows of the display.

5 Review machine boxes in the View Region to ascertain status of individual machines.
   a. The total number of jobs STARTING or RUNNING.
   b. All jobs RUNNING are listed.

6 Review the **Alarm** indicator/buttons of individual machines in the View Region.
   a. If an alarm is present, **single-clicking** alarm buttons brings up the **Alarm Manager**.
   b. Red indicates that an alarm has been generated.
   c. Gray (default color) indicates normal operation.

7 Review machine connection status in the View Region.

a. Solid black line indicates AutoSys can communicate with the client machine Internet daemon.
b. Solid red line indicates AutoSys cannot communicate with the client machine Internet daemon; however, the daemon does respond to **ping** commands.
c. Dashed red line indicates AutoSys cannot communicate with the client machine; machine is probably turned off.

8 Start the exit from **Hostscape** by executing the following menu path:

File → Exit

9 **Single-click** on the **OK** button.

Table 14.2-1. Review Hardware Status Using AutoSys HostScape - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select **HostScape**	**single-click**
3	Review Control Region to identify color code for machine status	**observe**
4	Review individual machine data in View Region	**observe**

Table 14.2-1. Review Hardware Status Using AutoSys HostScape - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
5	Execute **File → Exit**	**single-click**
6	Select **OK**	**single-click**

14.2.2 Select Hardware Status View Options

The View Options provide three methods to view the hardware status:

a. The Normal view (default) displays three rows of machines with job activities.
b. The Global view displays seven rows of machines but not job activities.
c. The Zoom view displays one machine with great detail: Job name, description, status, and commands.

The Production Monitor may select the Global view to monitor the entire system and in the case of a malfunction, use the Zoom view to focus on the specific problem machine.

Table 14.2-2 presents (in a condensed format) the steps required to change the hardware status view in AutoSys HostScape. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Select global view by executing the following menu path:

View → Select View Level → Global View

a. The **Global** view is displayed.
b. Up to seven rows of machines are displayed.
c. No job information is displayed.

2 Select a machine by **single-clicking** on **<machine name>** then execute the following menu path:

View → Zoom in Machine

a. The **Zoom** view is displayed.
b. A table of **Job Name**, **Description**, **Status**, and **Commands** is displayed.

3 Select **Dismiss**.
a. The **Global** view is displayed.

4 Display the **Normal** view of hardware status by executing the following menu path:

View → Select View Level → Normal view

a. The **Normal** view is displayed.
b. Up to three rows of machines are displayed.
c. Limited job information is displayed.

Table 14.2-2. Change the Hardware Status View in AutoSys HostScape - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Execute **View → Select View Level → Global View**	**single-click**
2	Select **<machine name>**	**single-click**
3	Execute **View → Zoom in Machine**	**single-click**
4	Review individual machine data in table	**observe**
5	Select **Dismiss**	**single-click**
6	Execute **View → Select View Level → Normal View**	**single-click**

14.3 Review DPR Dependencies

The process of reviewing DPR dependencies begins with the Production Monitor launching AutoSys Jobscape. The JobScape interface is used to monitor job flow in real-time.

Table 14.3-1 presents (in a condensed format) the steps required to review DPR dependencies in AutoSys JobScape. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **JobScape** button on the **AutoSys GUI Control Panel**.
a. The **JobScape** GUI page is presented.

3 Review the Control Region (left side of display) to identify **True** or **False** Dependency Legend.
a. **True** (default **solid** arrow) indicates job dependencies have been met.
b. **False** (default **dashed** arrow) indicates job dependencies have **not** been met.
1.∞Dependency arrows indicate that a job dependency exists for a job. They do not define time-related starting conditions, nor do they describe the type of job dependency, such as success, failure, or running.

4 Review the Job Display for status. The following colors represent the default values:
a. White indicates job status of **ACTIVATED**.
b. Dark Blue indicates job status of **INACTIVE** or **ON_HOLD** or **ON_ICE**.
c. Yellow indicates job status of **QUE_WAIT**.
d. Orange indicates job status of **RESTART**.
e. Green indicates job status of **STARTING** or **RUNNING**.
f. Red indicates job status of **FAILURE** or **TERMINATED**.
g. Light Blue indicates job status of **SUCCESS**.

5 Review the Job Display for job types:
a. **Rectangle** depicts **Box Job**.
b. **Ellipse** depicts **Command Job**.
c.∞**Hexagon** depicts **File Watcher Job** (not displayed in ECS implementation of AutoSys).

6 Select a job by placing the **cursor** on a job and pressing the **left** mouse button.
a. Border around selected job changes to **yellow**.
b. Job name appears in **Current Job Name** area of the Control Region.

7 Review job descendants by placing the **cursor** on a job and pressing the **right** mouse button.
a. **Descendants** pop-up menu appears.
b. Border around selected job changes to **yellow**.
c. Job name appears in **Current Job Name** area of the Control Region.

8 Select **Show Children** on the **Descendants** pop-up menu.
a. Job's first level Command and Box Jobs appear.
b. Repeat Step 6 to change job selection.

9 Select **Show All Descendants** on the **Descendants** pop-up menu.
a. Job's Command and Box Jobs appear for all levels.

10 Select **Hide All Descendants** on the **Descendants** pop-up menu.
a. Default view is displayed.
b. All dependents are hidden.

11 Start the exit from **JobScape** by executing the following menu path:

File → Exit

12 **Single-click** on the **OK** button.

Table 14.3-1. Review DPR Dependencies in AutoSys JobScape - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select **JobScape**	**single-click**
3	Review Control Region to identify **True** or **False** Dependency Legend and status color code	**observe**
4	Review the job status in View Region	**observe**
5	Select **<job name>**	**single-click**
6	Execute **<job name>** → **Show Children**	**right-click**
7	Review the job status in View Region	**observe**

Table 14.3-1. Review DPR Dependencies in AutoSys JobScape - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
8	Execute **<job name>** → **Show All Descendants**	**right-click**
9	Review the job status in View Region	**observe**
10	Execute **<job name>** → **Hide All Descendants**	**right-click**
11	Review the job status in View Region	**observe**
12	Execute **File** → **Exit**	**single-click**
13	Select **OK**	**single-click**

14.4 Review DPR Production Timeline

The process of reviewing the DPR Production Timeline begins with the Production Monitor launching AutoSys TimeScape. The TimeScape interface is used for monitoring actual versus projected job progress in real time.

Table 14.4-1 presents (in a condensed format) the steps required to review the DPR production timeline in AutoSys TimeScape. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **TimeScape** button on the **AutoSys GUI Control Panel**.
   a. The **TimeScape** GUI page is presented.
   b. Current time is displayed in red.

3 Review **Actual/Projected** Legend in lower left of the **Control Region** and compare to **View Region**.
   a. **Projected** is a rectangular (blue filled) graphic, to show average job completion time.
   b.∞**Actual** is a striped (white and blue) ribbon, to show how much of the job has completed.

c. If stripe is green, job is running.
d. If stripe is black, job has completed.

4 Review job descendants by placing the **cursor** on a job and pressing the **right** mouse button.
a. **Descendants** pop-up menu appears.
b. An asterisk (*****) indicates that a Box Job's descendants have been hidden.

5 Select **Show Children** on the **Descendants** pop-up menu.
a. Job's first level Command and Box Jobs appear.

6 Select **Show All Descendants** on the **Descendants** pop-up menu.
a. Job's Command and Box Jobs appear with all levels.

7 Select **Hide All Descendants** on the **Descendants** pop-up menu.
a. Default view is displayed.

8 Start the exit from **TimeScape** by executing the following menu path:

File → **Exit**

9 **Single-click** on the **OK** button.

Table 14.4-1. Review the DPR Production Timeline in AutoSys TimeScape - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select **TimeScape**	**single-click**
3	Review Control Region to identify **Actual/Projected** Legend and status color code	**observe**
4	Review the job status in View Region	**observe**
5	Select **<job name>**	**single-click**
6	Execute **<job name>** → **Show Children**	**right-click**
7	Review the job status in View Region	**observe**
8	Execute **<job name>** → **Show All Descendants**	**right-click**
9	Review the job status in View Region	**observe**
10	Execute **<job name>** → **Hide All Descendants**	**right-click**
11	Review the job status in View Region	**observe**
12	Execute menu path **File** → **Exit**	**single-click**
13	Select **OK**	**single-click**

14.5 Review Alarms

The process of reviewing alarms begins with the Production Monitor starting the AutoSys **Alarm Manager**. The **Alarm Manager** allows the Production Monitor to view alarms as they arrive, provide a response, and change the alarm status. The Alarm Manager is also configurable for the types of alarms that are displayed.

14.5.1 Review Alarms

Table 14.5-1 presents (in a condensed format) the steps required to review alarms using the AutoSys Alarm Manager. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).

a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Ops Console** button on the **AutoSys GUI Control Panel**.
a. The **Ops Console** GUI is displayed.

3 **Single-click** on the **Alarm** button.
a. The **Alarm Manager** GUI page is presented.
b. ∞ Alarms are displayed in reverse order of occurrence; the most recent alarm appears at the top of the list.

4 Perform the procedure **Select Alarms for Alarm Manager Display** to display a particular selection of alarms on the AutoSys **Alarm Manager** if desired (refer to Section 14.5.2).

5 **Single-click** on an alarm in the **Alarm List**.
a. Information for **Alarm Type**, **Job Name**, **Time**, **State**, **Comment** is displayed.
b. Alarm is displayed in detail in the **Currently Selected Alarm** region of the display.
c. Refer to Table 14.5-2 for descriptions of AutoSys alarms.

6 **Single-click** in the **Response** edit box and enter ***response***, if desired.
a. Response is entered.

7 Update **Alarm State** by **single-clicking** proper radio button of **Open**, **Acknowledged**, or **Closed**.
a. Alarm State is updated.

8 **Single-click Apply**.
a. Response is entered.

9 Repeat Steps 5 - 8 to update/review multiple alarms.
a. Alarms are updated/reviewed.

10 **Single-click Ok**.
a. ∞ Alarm Manager GUI closes and the user is back to the AutoSys **Job Activity Console.**

11 Start the exit from the AutoSys **Job Activity Console (Ops Console)** by executing the following menu path:

File → Exit

12 **Single-click** on the **OK** button.

Table 14.5-1. Review Alarms Using the AutoSys Alarm Manager - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select **Ops Console**	**single-click**
3	Select **Alarm**	**single-click**
4	Select alarms for Alarm Manager display if desired	Use procedure in Section 14.5.2 if applicable
5	Select an alarm in the **Alarm List**	**single-click**
6	Enter a response in the **Response** edit box if desired.	**enter text**
7	Update the **Alarm State** by selecting the proper radio button (**Open**, **Acknowledged**, or **Closed)**	**single-click**
8	Select **Apply**	**single-click**
9	Repeat Steps 4 through 7 to review/update additional alarms	
10	Select **Ok**	**single-click**
11	Execute **File** → **Exit**	**single-click**
12	Select **OK**	**single-click**

Table 14.5-2. AutoSys Alarms (1 of 3)

ALARM	CODE*	DESCRIPTION
AUTO_PING		The **autoping** command has found a problem in trying to communicate with the Remote Agent on a client machine.
CHASE	514	The **chase** command has found a problem with a job that is supposedly running. The job and problem are listed.
DATABASE_COMM	516	The Remote Agent had trouble sending an event to the database. The job probably ran successfully. Inspect the Remote Agent Log file to determine what happened.
DB_PROBLEM	523	There is a problem with one of the AutoSys databases. This alarm can trigger a user-specified notification procedure.
DB_ROLLOVER	519	AutoSys has rolled over from Dual Server to Single Server Mode. This alarm can trigger a user-specified notification procedure.
DUPLICATE_EVENT	524	Duplicate events have been received in the Event Server. Typically, this means that two Event Processors are running, although “duplicate events” can also be caused by Event Server configuration errors.
EP_HIGH_AVAIL	522	The Event Processor High Availability system has detected some system or network problems. This alarm can trigger a user-specified notification procedure.

Table 14.5-2. AutoSys Alarms (2 of 3)

ALARM	CODE*	DESCRIPTION
EP_ROLLOVER	520	The Shadow Event Processor is taking over processing. This alarm can trigger a user-specified notification procedure.
EP_SHUTDOWN	521	The Event Processor is shutting down. This may be due to a normal shutdown (SEND_EVENT) or due to an error condition. This alarm can trigger a user-specified notification procedure.
EVENT_HDLR_ERROR	507	The Event Processor had an error while processing an event. The job associated with the event should be inspected to see if manual intervention is required.
EVENT_QUE_ERROR	508	An event could not be marked as processed. This is usually due to a problem with the Event Server.
FORKFAIL	501	The Remote Agent was unable to start the user command because it was unable to get a process slot on the machine. AutoSys automatically attempts a RESTART when this happens.
INSTANCE_UNAVAILABLE	525	When different AutoSys instances communicate with each other, this alarm is generated when a receiving AutoSys instance (i.e., its Event Server) cannot be reached. The Event Server is probably down.
JOBFAILURE	503	A job has failed. Its current status is FAILURE.
JOBNOT_ONICEHOLD	509	To place a job either ON_HOLD or ON_ICE, a JOB_ON_HOLD or JOB_ON_ICE event (as applicable) is sent. There are certain conditions when the job cannot be placed ON_HOLD or ON_ICE (e.g., if it is already running). In such cases the alarm is sent alerting the operator that the job could not be put ON_HOLD or ON_ICE (as applicable).
MAXRUNALARM	510	The job has been running for a time greater than that defined in the Maximum Run Alarm (**max_run_alarm**) field for the job. The job may continue to run; however, a warning alarm is generated.
MAX_RETRYS	505	AutoSys continues attempting to restart a job if there are system problems or if the job is configured for application restarts (**n_retrys**). There is a limit to the number of times it will attempt a restart, as defined in the configuration files (using **MaxRestartTrys**). When that limit has been reached, the MAX_RETRYS alarm is sent to alert operators that AutoSys has given up trying to start the job. After the problem has been fixed the job must be started manually.
MINRUNALARM	502	The job has completed running in a time less than that defined in the Minimum Run Alarm (**min_run_alarm**) field for the job.
MISSING_HEARTBEAT	513	A job has not sent a HEARTBEAT within the interval specified for the job. The operator should inspect the job to determine the cause.
RESOURCE	512	A resource needed for the job was not available. The types of resources are: (a) number of process slots and (b) file space. Specific information about the problem is in the comment associated with the alarm. If AutoSys encounters a resource problem, it attempts to restart the job after a suitable delay.

Table 14.5-2. AutoSys Alarms (3 of 3)

ALARM	CODE*	DESCRIPTION
STARTJOBFAIL	506	AutoSys was unable to start the job. This is generally due to communication problems with the remote machine. AutoSys attempts to restart the job.
VERSION_MISMATCH	518	Generated by the Remote Agent when calling the routine (e.g., Event Processor, **chase**, **clean_files**, **autoping**, etc.) has a different version number than the Remote Agent. Inspect the Remote Agent Log file for the exact version mismatch. The proper Remote Agent version should be installed.

*The code number is used for viewing the event in the event table in the AutoSys database.

14.5.2 Select Alarms for Alarm Manager Display

Table 14.5-3 presents (in a condensed format) the steps required to select the types of alarms to be displayed on the AutoSys **Alarm Manager** for controlling which alarms are displayed. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
   a. The AutoSys GUI Control Panel is displayed.

2 **Single-click** on the **Ops Console** button on the **AutoSys GUI Control Panel**.
   a. The **Ops Console** GUI is displayed.

3 **Single-click** on the **Alarm** button.
   a. The **Alarm Manager** GUI page is presented.

4 To display the **Alarm Selection** GUI execute the following menu path:

   View → **Select Alarms…**

   a. **Alarm Selection** GUI is displayed.
   b. Alarm Selection defaults are
      1. **All Types** for **Select by Type**,
      2. **Open** and **Acknowledge** for **Select by State**, and
      3. **All Times** for **Select by Time**.

5 To have a single type of alarm displayed, **single-click** on either a type of alarm in the **Select by Type** list or select **All Types**.
   a. Alarm types are selected.
   b. If **All Types** is selected, the button turns yellow.
   c. Refer to Table 14.5-2 for descriptions of AutoSys alarms.

6 To select multiple alarms: **press and hold** the **Control** key while **single-clicking** alarms in the **Alarm List**.
   a. Multiple alarms are selected.

7 To **Select by State**, **single-click** on the appropriate toggle buttons.
   a. Options are Open, Acknowledge, Closed, or All States.
   b. Any or all buttons can be selected.
   c. Button turns yellow when selected.

8 To **Select by Time**, enter **From Date (MM/DD/YY)** and press **Tab,** or select **All Times**.
a. **MM/DD/YY** is entered (if applicable).
b. If **All Times**, proceed to Step 12.

9 Enter **From Time (hh:mm),** and press **Tab**.
a. **hh:mm** is entered.

10 Enter **To Date (MM/DD/YY),** and press **Tab**.
a. **MM/DD/YY** is entered.

11 Enter **To Time (hh:mm),** and press **Tab**.
a. **hh:mm** is entered.

12 Select **Apply**.
a.∞Selections are applied and the matching alarms are shown on the **Alarm Manager** display.

13 Select **OK**.
a. **Alarm Selection** GUI is closed.
b. **Alarm Manager** GUI is displayed.

14 If an audible signal is desired for alarm notification, execute the following menu path:

Options → **Sound On**

a. **Sound On** Toggle button appears yellow when sound function has been activated.

15 Exit from the **Alarm Manager** by **single-clicking** on the **Cancel** button.

Table 14.5-3. Select Types of Alarms to be Displayed on the AutoSys Alarm Manager - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select **Ops Console**	**single-click**
3	Select **Alarm**	**single-click**
4	Execute **View** → **Select Alarms...**.	**single-click**
5	Select type(s) of alarms to be displayed from the **Select by Type** list or select **All Types**	**single-click**
6	Select state(s) of alarms to be displayed from the **Select by State** list or select **All States**	**single-click**

Table 14.5-3. Select Types of Alarms to be Displayed on the AutoSys Alarm Manager - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
7	Select **All Times** for time(s) of alarms to be displayed or enter dates and times (From/To)	**single-click** or **enter text, press Tab**

Step	What to Enter or Select	Action to Take
8	Select **Apply**	**single-click**
9	Select **Ok**	**single-click**
10	Execute **Options** → **Sound On** if desired	**single-click** if applicable
11	Select **Cancel**	**single-click**

14.6 Review Job Activities

During start-up, the Job Management server in the Data Processing Subsystem determines the number of jobs in the PDPS database associated with Job Management's operating mode and compares the number with the maximum allowable for the mode. The maximum is specified in the Job Management configuration file (i.e., as DpPrAutoSysMaxJobs in EcDpPrJobMgmt.CFG). Job Management deletes from AutoSys the successfully completed jobs associated with the applicable mode only. Deleting completed jobs makes room for other jobs in the processing queue. It is possible to distribute the optimum number of jobs among the active modes according to their level of activity (refer to Section 14.10.2).

The process of reviewing Job Activities begins with the Production Monitor launching the **AutoSys GUI Control Panel**. The **Job Activity Console** (**Ops Console**), which is accessible from the control panel, is the primary interface that allows the operator to monitor all jobs that are defined to AutoSys. The **Job Selection** GUI sets the criteria for jobs to be displayed on the **Job Activity Console**.

14.6.1 Specify Job Selection Criteria

Table 14.6-1 presents (in a condensed format) the steps required to filter (select) jobs to be displayed on the **Job Activity Console** (**Ops Console**) GUI. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Ops Console** button on the **AutoSys GUI Control Panel**.
   a. The AutoSys **Job Activity Console** (**Ops Console**) is displayed.
   b.∞No job information is displayed on the **Job Activity Console** when it is brought up using the **Ops Console** button on the **AutoSys GUI Control Panel**.

3 To display the **Job Selection** GUI execute the following menu path:

View → Select Jobs

a. The **Job Selection** view is displayed.
b. Job selection has the following default settings:
   1. **All Jobs** (Job Name) for **Select by Name**.
   2. **All Statuses** for **Select by Status**.
   3. **All Machines** for **Select by Machine**.
   4. **Unsorted** for **Sort Order**.

4 **Single-click** on the desired option in the **Select by Name** area, and enter required name or select **All Jobs**.
a. Options are **Job Name, Box Name,** or **Box Levels** or **All Jobs**.
b. Selection button turns yellow.

5 **Single-click** desired status in the **Select by Status** area
a.∞Options are Starting, Running, Success, Failure, Terminated, Restart, Que Wait, Activated, Inactive, On Hold, and On Ice.

6 **Single-click** desired machine in **Select by Machine** area or select **All Machines**.
a. Machine is highlighted.
b. **All Machines** button turns yellow.

7 **Single-click** desired **Sort Order**.
a.∞Options are **Start Time, End Time, Job Name, Job Status, Machine Name,** and **Unsorted**.

8 **Single-click** on the **Apply** button.
a. Selections are applied.

9 **Single-click** on the **OK** button.
a. **Job Activity Console** (**Ops Console**) is displayed.
b. **Job List** is displayed in accordance with the specified selection criteria.

Table 14.6-1. Specify Job Selection Criteria for the AutoSys Job Activity Console - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select **Ops Console**	**single-click**
3	Execute **View → Select Jobs**	**single-click**
4	Select the desired option in the **Select by Name** area and enter required name if applicable	**single-click; enter text** if applicable
5	Select the desired status(es) in the **Select by Status** area	**single-click**

Table 14.6-1. Specify Job Selection Criteria for the AutoSys Job Activity Console - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
6	Select the desired machine(s) in **Select by Machine** area	**single-click**
7	Select the desired **Sort Order**	**single-click**
8	Select **Apply**	**single-click**
9	Select **OK**	**single-click**

14.6.2 Review Job Activities Using the AutoSys Job Activity Console

Table 14.6-2 presents (in a condensed format) the steps required to review job activities using the AutoSys **Job Activity Console**. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Specify job selection criteria for the AutoSys **Job Activity Console** - Refer to Section 14.6.1.

2 Review jobs in the **Job List** region of the **Job Activity Console**.
a. **Job Name, Description, Status, Commands,** and **Machine** are displayed in a table.

3 **Single-click** anywhere on a job row to display detailed information.
a.∞Job details are displayed in the **Currently Selected Job** region of the **Job Activity Console**.

4 Review the data in the **Currently Selected Job** region of the display.
a.∞Job name (**Currently Selected Job**), **Description**, **Command**, **Start Time** (and date), **End Time** (and date), **Run Time**, **Status**, **Exit Code**, **Next Start**, **Machine**, **Queue Name**, **Priority**, and **Num. of Tries** are displayed in a table.

5 Review **Starting Conditions**.
a. All job **Starting Conditions** are displayed.
b.∞Individual (atomic) starting conditions are displayed, including **Atomic Condition, Current State,** and **T/F** (whether the current state evaluates true or false) are displayed.
c.∞**Single-clicking** on a specific starting condition causes the **Currently Selected Job** to be updated to reflect the selected "upstream" dependency.

6 Review the **Job Report** region.
a.∞**Single-click** on the **Summary**, **Event**, and **None** buttons in the **Reports** area to view different reports.
b. **Summary**, **Event**, and **Job Reports** are displayed as selected.
c. Selected report button turns yellow.

7 **Single-click Exit**.
a. **AutoSys JAC Exit** GUI appears.

8 **Single-click OK**.
a. AutoSys **Job Activity Console** (**Ops Console**) GUI is exited.

Table 14.6-2. Review Job Activities Using the AutoSys Job Activity Console - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Specify job selection criteria for the **Job Activity Console**	Use procedure in Section 14.6.1
2	Review jobs in the **Job List** region	**observe**
3	Select a job row for which detailed information is to be displayed	**single-click**
4	Review the data in the **Currently Selected Job** region	**observe**
5	Review the data in the **Starting Conditions** region	**observe**
6	Review reports in the **Job Reports** region	**single-click**
7	Select **Exit**	**single-click**
8	Select **OK**	**single-click**

14.7 Modify Job Status

At times the Production Monitor may need to modify a particular job in any of the following ways:

a. Start the job.
b. Kill the job.
c. Force the job to start.
d. Place the job on hold.
e. Take the job off hold.

The Production Monitor has the option of the following three methods for making those types of modifications to a particular job:

a. Buttons in the **Actions** region of the **Job Activity Console (Ops Console)**.
b.∞Menu accessed by clicking the **right** mouse button on the relevant job name on either the **JobScape** or **TimeScape** GUI.
c. AutoSys **Send Event** GUI.

In addition to the previously mentioned modifications to job status, the buttons in the **Actions** region of the **Job Activity Console (Ops Console)** allow the Production Monitor to generate one of the following types of reports:

a. Jobs Completed.
b. Jobs Waiting.

The menu accessed using the right mouse button on one of the AutoXpert GUIs allows the Production Monitor to initiate either of the following actions (in addition to the previously mentioned modifications to job status):

a. Put the job on ice.
b. Take the job off ice.

The **Send Event** GUI allows the Production Monitor to initiate a very broad range of actions, including any of the following items:

a. Start the job.

b. Kill the job.
c. Force the job to start.
d. Place the job on hold.
e. Take the job off hold.
f. Change the job's status.
g. Change the job's queue priority.
h. Put the job on ice.
i. Take the job off ice.
j. Stop the daemon (stop the Event Processor in an emergency).
k. Set a global value.
l. Send a signal concerning the job.
m. Make a comment (for example, why a job start was forced).

Guideline for Putting Jobs "On Ice" or "On Hold":

a.∞Ensure that the job to be put either "on hold" or "on ice" is not already in a "starting" or "running" state. (A job that is either "starting" or "running" cannot be put "on hold" or "on ice.")

Guidelines for Force-Starting Jobs:

a.∞Force-start command jobs (e.g., allocation, staging, preprocessing) only; do not attempt to force-start a box job.
1.∞The software does not support box job force-starts. (Although it may work fine in some cases, it can cause the PDPS database to get out of sync and prevent the DPR (and possibly other DPRs) from running successfully.)
2.∞If a box job were force-started, the allocation job would run again. The allocation job might choose a different science processor than was chosen the previous time the job ran. Using a different science processor could cause failure of the job.
3.∞After each job (and often within each job) the state of the DPR is tracked in various tables in the database. Box job force-starts lack the code needed to check the state of the box and perform the cleanup activities necessary for starting over.
b.∞Ensure that the GUI has refreshed and the job to be force-started is not already running before trying to force-start a job. (If a job is already running, it should not be force-started.)
1.∞If using AutoSys/AutoXpert 3.4.2 or a later version, it should not be possible to force-start jobs that are already running.
c.∞If any command job other than execution fails, force-start the job that failed only. Do not force start any preceding or succeeding jobs in the box.
d.∞If execution fails, it is not safe to restart it unless the post-processing job had been put on hold and the failure was detected before post-processing started running.
e.∞If execution fails and the failure was not detected before post-processing started running, the DPR must run to completion as a failed PGE and the DPR must be deleted and recreated.

In any case the Production Monitor may implement certain changes of job status only when the Production Monitor "owns" the job affected by the modification.

14.7.1 Determine the Ownership of an AutoSys Job

AutoSys is very much ownership-aware. Only the "owner" of a job has "edit" privileges and can make changes to the status of an owned job.

AutoSys recognizes ownership in terms of two factors:

a. User ID.
b. Machine where the operator (user) logged in.

For example, cmshared@g0sps06 identifies the operator who logged in as "cmshared" at machine g0sps06. Any operator who logs in as "cmshared" at another machine (e.g., g0pls01) would not be able to change the status of a job "owned" by cmshared@g0sps06. Consequently, to have any real effect on a job first it is necessary to log in as the job's owner and launch the AutoSys GUIs as that owner.

Table 14.7-1 presents (in a condensed format) the steps required to determine the ownership of a job. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 Click on the **JobScape** button on the **AutoSys GUI Control Panel**.
   a. The **JobScape** GUI is displayed.

3 Place the mouse cursor on the relevant job and **single-click** and **hold** the **right** mouse button.
   a. **Descendants** pop-up menu appears.
   b.∞Options are **Show Children**, **Show All Descendants**, **Hide All Descendants**, **Show Job Arrows**, **Hide Job Arrows**, **Show Box Arrows**, **Hide Box Arrows**, **Job Definition**, **View Dependencies**, **Set Simulation Overrides** [grayed out], **Start Job**, **Kill Job**, **Force Start Job**, **On Hold**, **Off Hold**, **On Ice**, **Off Ice**.

4 Select **Job Definition** from the **Descendants** pop-up menu (release the right mouse button).
   a. The **Job Definition** GUI is displayed.

5 Review the entry in the **Owner** field of the **Job Definition** GUI.
   a. Job owner is identified in the **Owner** field of the **Job Definition** GUI.
   b. Job name is listed in the **Job Name** field of the **Job Definition** GUI.

NOTE: Jobs should **not** be deleted using the AutoSys **Job Definition** GUI because it does not communicate with the PDPS database.

6 To exit from the **Job Definition** GUI, **single-click** on the **Exit** button.

Table 14.7-1. Determine the Ownership of an AutoSys Job - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select **JobScape**	**single-click**
3	Select **<job name>**	**single-click**
4	Execute **<job name>** → **Job Definition**	**right-click**
5	Review the job owner information in the **Owner** field	**observe**
6	Select **Exit** to quit **Job Definition**	**single-click**

14.7.2 Modify Job Status

The process of modifying job status begins after the Production Monitor has selected the **Job Activity Console** (**Ops Console**).

Table 14.7-2 presents (in a condensed format) the steps required to modify job status using the AutoSys **Job Activity Console**. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Specify job selection criteria for the AutoSys **Job Activity Console** - Refer to Section 14.6.1.

2 Verify that the job with the status to be modified is listed in the **Currently Selected Job** field of the **Job Activity Console** (**Ops Console**) .

a.∞**Single-click** on the job row in the **Job List** region of the **Job Activity Console** if necessary.

1.∞Information concerning the selected job is displayed in the **Currently Selected Job** region of the **Job Activity Console**.

3 **Single-click** on the button corresponding to the desired action to be taken with respect to the selected job (if there is a corresponding button in the **Actions** region of the **Job Activity Console**).

a. Options are **Start Job, Kill Job, Force Start Job,** [Put Job} **On Hold,** [Take Job] **Off Hold,** [Display] **Jobs Completed** [Report], [Display] **Jobs Waiting** [Report].

1. If one of the buttons in the preceding list was selected, the procedure has been completed.

b. If there is no button corresponding to the desired action, modify job status using either the **Send Event** GUI (continue with the next step) or the **Client Tool** button.

1. If **Send Event** was selected, perform Steps 4 through 16 as applicable.
2. Procedures for performing job management functions using the **Client Tool** button are described in Section 14.7.3.

4 **Single-click** on the **Send Event** button in the **Actions** Region of the **Job Activity Console**.

a. **Send Event** GUI is displayed.
b. **Send Event** defaults are:
   1. **Start Job** for **Event Type**.
   2. **Now** for **Time**.
   3. **Normal** for Send Priority.

5 **Single-click** on the **Event Type** to be sent to the job in AutoSys.

a. Options are **Start Job**, **Job On Hold**, **Job Off Hold**, **Comment**, **Stop Demon**, **Force Start Job**, **Job On Ice**, **Job Off Ice**, **Kill Job**, **Change Status**, **Change Priority**, **Set Global**, and **Set Signal**.

6 Verify **<Job Name>**.

a. **<Job Name>** appears in the **Job Name** field.
b. Enter the proper **<Job Name>** if incorrect.

7 **Enter** the desired date and time, either **Now** or **Future**.

a. **Single-click Now** or **single-click Future** and enter **Date** (***MM/DD/YY***), **Time** (***hh:mm***), and **single-click A.M**. or **P.M.**

1. **Now** for immediate execution.
2. **Future** for future time and date. (Current date and time are default values.)

8 **Enter** a **<comment>** if desired or necessary.

a. Free-form field for text entry to associate with the event being sent to the specified job.

9 Review the **AUTOSERV Instance** field**.**

a. Displays the current AutoSys instance identifier.
b. Enter the proper **<AUTOSERV Instance>** if incorrect.

10 Review the **Global Name** and **Global Value** fields if **Set Global** was selected as the **Event Type.**
a. Enter the <**Global Name**> and <**Global Value**> if applicable.

11 Review the **Signal** field if either **Send Signal** or **Kill Job** was selected as the **Event Type.**
a. Enter the number of the UNIX signal to be sent to the job (refer to Table 14.7-3).

12 Review the **Status** option menu if **Change Status** was selected as the **Event Type.**
a. **Single-click** and select from pop-up list desired status.
1. Options are: **Running, Success, Failure, Terminated, Starting,** and **Inactive**.
2. Can be changed only if **Change Status** was selected in the **Event Type** region.

13 Review the **Queue Priority** entry if **Change Priority** was selected as the **Event Type.**
a. Can be changed only if **Change Priority** was selected in the **Event Type** region.
b. Enter the new <**Queue Priority**> if applicable.

14 Review the **Send Priority** radio box**.**
a. Refers to the priority for sending the selected event to the job.
b. Options are **Normal** and **High**.
c. **High** priority is reserved for emergencies.

15 **Single-click** on the **Execute** button.

16 **Single-click** on the **Yes** button.
a. **Send Event** setting is set.
b. **Job Activity Console** is displayed.

Table 14.7-2. Modify Job Status – Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Specify job selection criteria for the **Job Activity Console**	Use procedure in Section 14.6.1
2	Review jobs in the **Job List** region	**observe**
3	Select a job row for which detailed information is to be displayed	**single-click**
4	Select the button corresponding to the desired action to be taken	**single-click**
5	If there is no button corresponding to the desired action, select the **Send Event** button	**single-click**
6	If the **Send Event** GUI was invoked, select the **Event Type** to be sent to the job	**single-click**
7	Verify job name in the **Job Name** field	**enter text** if necessary
8	Select either **Now** or **Future**	**single-click**
9	Enter **<date and time>** if **Future** was selected	**enter text** if applicable

Table 14.7-2. Modify Job Status – Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
10	Enter **<Comment>** if desired/necessary	**enter text**
11	Enter the **<AUTOSERV Instance>** if incorrect	**enter text** if necessary
12	Enter the **<Global Name>** and **<Global Value>** if **Set Global** was selected as the **Event Type**	**enter text** if applicable
13	Enter the appropriate number in the **Signal** field if either **Send Signal** or **Kill Job** was selected as the **Event Type**	**enter text** if applicable
14	Select the **Status** if **Change Status** was selected as the **Event Type**	**single-click** if applicable
15	Enter the **<Queue Priority>** if **Change Priority** was selected as the **Event Type**	**enter number** if applicable
16	Select the **Send Priority** status	**single-click** if applicable
17	Select **Execute**	**single-click**
18	Select **Yes**	**single-click**

Table 14.7-3. UNIX Signals (1 of 2)

NAME	VALUE	DEFAULT	EVENT
HUP	1	Exit	Hangup.
INT	2	Exit	Interrupt.
QUIT	3	Core	Quit.
ILL	4	Core	Illegal Instruction.
TRAP	5	Core	Trace/Breakpoint Trap.
ABRT	6	Core	Abort.
EMT	7	Core	Emulation Trap.
FPE	8	Core	Arithmetic Exception.
KILL	9	Exit	Killed.
BUS	10	Core	Bus Error.
SEGV	11	Core	Segmentation Fault.
SYS	12	Core	Bad System Call.
PIPE	13	Exit	Broken Pipe.
ALRM	14	Exit	Alarm Clock.
TERM	15	Exit	Terminated.
USR1	16	Exit	User Signal 1.
USR2	17	Exit	User Signal 2.
CHLD	18	Ignore	Child Status Changed.
PWR	19	Ignore	Power Fail/Restart.
WINCH	20	Ignore	Window Size Change.
URG	21	Ignore	Urgent Socket Condition.
POLL	22	Exit	Pollable Event.
STOP	23	Stop	Stopped (signal).
TSTP	24	Stop	Stopped (user).

Table 14.7-3. UNIX Signals (2 of 2)

NAME	VALUE	DEFAULT	EVENT
CONT	25	Ignore	Continued.
TTIN	26	Stop	Stopped (tty input).
TTOU	27	Stop	Stopped (tty output).
VTALRM	28	Exit	Virtual Timer Expired.
PROF	29	Exit	Profiling Timer Expired.
XCPU	30	Core	CPU time limit exceeded.
XFSZ	31	Core	File size limit exceeded.
WAITING	32	Ignore	Concurrency signal reserved by threads library.
LWP	33	Ignore	Inter-LWP signal reserved by threads library.
FREEZE	34	Ignore	Check point Freeze.
THAW	35	Ignore	Check point Thaw.
CANCEL	36	Ignore	Cancellation signal reserved by threads library.
RTMIN	*	Exit	First real time signal.
(RTMIN+1)	*	Exit	Second real time signal.
(RTMAX-1)	*	Exit	Second-to-last real time signal.
RTMAX	*	Exit	Last real time signal.

*The symbols RTMIN through RTMAX are evaluated dynamically in order to permit future configurability.

14.7.3 Cancel a Sent Event

Table 14.7-4 presents (in a condensed format) the steps required to cancel an event that was previously scheduled for *sometime in the future*. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 **Single-click** on the **Send Event** button in the **Actions** Region of the **Job Activity Console**.
   a. **Send Event** GUI is displayed.

2 **Single-click** on the **Event Type** that was sent to the job and is to be cancelled.
   a.∞Options are **Start Job, Job On Hold, Job Off Hold, Comment, Stop Demon, Force Start Job, Job On Ice, Job Off Ice, Kill Job, Change Status, Change Priority, Set Global,** and **Set Signal**.

3 **Single-click** on the **Cancel Previously Sent Event** radio button.

4 **Verify Job Name**.
   a. **<Job Name>** appears in the **Job Name** field.
   b. Enter the proper **<Job Name>** if incorrect.

5 **Single-click** on the **Execute** button.

6 **Single-click** on the **Yes** button.
a. The event is cancelled.
b. **Job Activity Console** is displayed.

Table 14.7-4. Cancel a Sent Event - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Select the **Send Event** button	**single-click**
2	Select the **Event Type** that was sent to the job and is to be cancelled	**single-click**
3	Select the **Cancel Previously Sent Event** button	**single-click**
4	Verify job name in the **Job Name** field	**enter text** if necessary
5	Select **Execute**	**single-click**
6	Select **Yes**	**single-click**

14.7.4 Perform Job Management Functions

The Job Management Client tool is a set of utility programs intended primarily for use by software developers. However, if necessary, it is possible to gain access to the following Job Management Client functions from AutoSys by clicking on the **Client Tool** button in the **Actions** region of the **Job Activity Console**:

a. Create DPR Job.
b. Release DPR Job.
c. Cancel DPR Job.
d. Change DPR ID.
e. View Job Management DPR Queue.
f. Create Ground Event Job.
g. Cancel Ground Event Job.

Table 14.7-5 presents (in a condensed format) the steps required to perform job management functions using the AutoSys **Job Activity Console**. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Verify that the job with the status to be modified is listed in the **Currently Selected Job** field of the **Job Activity Console** (**Ops Console**) .
a.∞**Single-click** on the job row in the **Job List** region of the **Job Activity Console** if necessary.
1.∞Information concerning the selected job is displayed in the **Currently Selected Job** region of the **Job Activity Console**.

2 **Single-click** on the **Client Tool** button in the **Actions** Region of the **Job Activity Console**.
a. The **Ready to Invoke** [Job Management Client] dialog box is displayed.

3 **Single-click yes**.
a. The dialog box closes.
b. The **Jobs Activation User Interface** window is displayed.
c. The following menu options are displayed:

0) Exit
1) Create Dpr Job
2) Release Dpr Job
3) Cancel Dpr Job
4) Change Dpr Id
5) View Job Management Dpr Queue
6) Create Ground Event Job
7) Cancel Ground Event Job

4 **Enter** the number corresponding to the desired function at the **enter an option** prompt.

5 **Enter** responses to Job Management Client prompts.

6 Enter **0** at the **enter an option** prompt to quit the Job Management Client.

Table 14.7-5. Perform Job Management Functions - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Verify job name in the **Currently Selected Job** field of the **Job Activity Console** (**Ops Console**)	**single-click** if necessary
2	Select the **Client Tool** button	**single-click**
3	Select **yes**	**single-click**
4	Enter the number corresponding to the desired function	**enter text, press Enter**
5	Enter responses to Job Management Client prompts	**enter text, press Enter**
6	Enter **0** at the **enter an option** prompt to quit the Job Management Client	**enter text, press Enter**

14.8 Review AutoSys Activity and Job Dependency Logs

The following two types of useful reports can be generated using AutoSys commands:

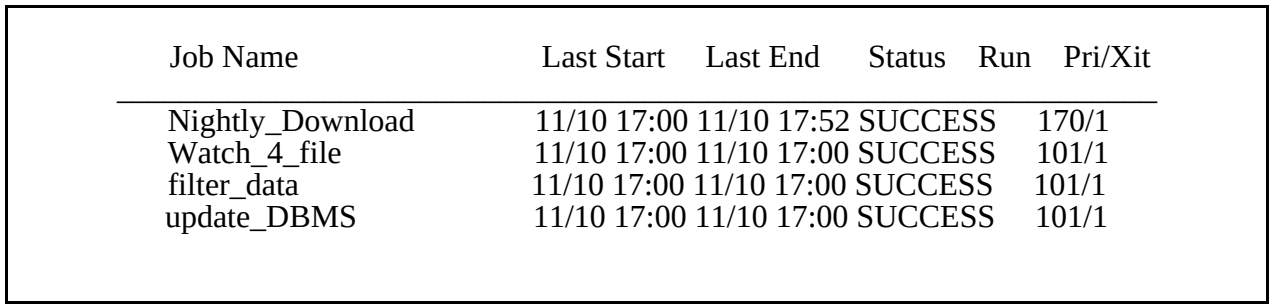
a. Activity Log.
b. Job Dependency Log.

The AutoSys Activity Log provides the results of the execution of jobs as monitored by AutoSys. It is similar to the Summary Report that is accessible by clicking on the **Summary** button in the **Reports** region of the **Job Activity Console** (**Ops Console**) GUI.

The AutoSys Job Dependency Log reports information about the dependencies and conditions of jobs. It is accessible by clicking on the **Dependent Jobs** button in the **Show** region of the **Job Activity Console** (**Ops Console**) GUI as well as through the use of an AutoSys command.

14.8.1 Review Activity Log

The process of reviewing an Activity Log begins with the Production Monitor running the AutoSys **autorep** command. The **autorep** command reports information about a job, jobs within boxes, machines, and machine status. A sample Activity Log is illustrated in Figure 14.8-1.



Job Name	Last Start	Last End	Status	Run	Pri/Xit
Nightly_Download	11/10 17:00	11/10 17:52	SUCCESS		170/1
Watch_4_file	11/10 17:00	11/10 17:00	SUCCESS		101/1
filter_data	11/10 17:00	11/10 17:00	SUCCESS		101/1
update_DBMS	11/10 17:00	11/10 17:00	SUCCESS		101/1

Figure 14.8-1. Sample Activity Log

Table 14.8-1 presents (in a condensed format) the steps required to display and review the Activity Log using the AutoSys **autorep** command. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 At the UNIX command line prompt enter:

/usr/ecs/<MODE>/COTS/autosys/bin/autorep -J ALL

a. Directory path may vary with installation.
b. Activity Log is displayed on the UNIX standard output.
c. Enter **<job name>** in place of **ALL** for a specific job.
d. Enter **-M <machine name>** for a Machine Report.
e. Enter **-s** for a summary report.
f. Enter **-d** for a Detailed Report.
g. Enter **-q** for a Query Report.

2 Add **| lp** to the preceding command line to print the document or add **> /<path>/<filename>** to save the report in a file.
a. Activity Log is printed or saved in a file as applicable.

3 Review the Activity Log to determine job states.
a. Completed.
b. Currently running.
c. In the queue.

Table 14.8-1. Review Activity Log - Quick-Step Procedures

Step	What to Enter or Select	Action to Take

Step	What to Enter or Select	Action to Take
1	Enter **/usr/ecs/<MODE>/COTS/autosys/bin/autorep -J ALL**	**enter text, press Enter**
2	Review the Activity Log to determine job states	**observe**

14.8.2 Review Job Dependency Log

The process of reviewing a Job Dependency Log begins with the Production Monitor running the AutoSys **job_depends** command. The **job_depends** command reports information about the dependencies and conditions of a job. The command can be used to determine the current state of a job, its job dependencies, the dependencies and nested hierarchies (for boxes) as specified in the job definition, and a forecast of what jobs will run during a given period of time. A sample Job Dependency Log is illustrated in Figure 14.8-2.

Job Name	Status	Date Cond?	Start Cond?	Dependent Jobs?
DPR##	Activated	No	Yes	No

Condition: (success(DPR_##) and exit code(execute.DPR_##)<5)

Atomic Condition	Current Status	T/F
SUCCESS(SPR_##)	SUCCESS	T
EXIT_CODE(execute.DPR_##)	SUCCESS	F

Figure 14.8-2. Sample Job Dependency Log

Table 14.8-2 presents (in a condensed format) the steps required to display and review the Job Dependency Log using the AutoSys **job_depends** command. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 At the UNIX command line prompt enter:

/usr/ecs/<MODE>/COTS/autosys/bin/job_depends -c -J <job name>

a. Directory path may vary with installation.
b. Job Dependency log is displayed.
c. Enter **-c** for current condition status.
d. Enter **-d** for dependencies only.
e. Enter **-t** for time dependencies.
f.∞ Enter **-J <job name>** to indicate a specific job as the subject of the report. Use **ALL** for all jobs.

2 Add **| lp** to the preceding command line to print the document or add **> /<path>/<filename>** to save the report in a file.
a. Job Dependency log is printed or saved in a file as applicable.

3 Review the Job Dependency Log to determine job dependencies.

Table 14.8-2. Review Job Dependency Log - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Enter **/usr/ecs/<MODE>/COTS/autosys/bin/job_depends -c -J <job name>**	**enter text, press Enter**
2	Review the Job Dependency Log to determine job dependencies	**observe**

14.9 Define and Run Monitors/Browsers

The current edition of the *Release 5A Operations Tools Manual for the ECS Project (*609-CD-500-001) indicates that ECS does not support the AutoSys monitor/browser capabilities. However, they are functional and the Production Monitor can use them (with no expectation of ECS support if problems are encountered).

The process of defining monitors/browsers begins with the Production Monitor launching AutoSys. The Monitor/ Browser screen contains fields representing all the information needed to define a monitor or browser. See Figure 14.9-1.

Alarm: STARTJOBFAIL Job: execute.DPR_15 06/14 19:18:18 Run #782:9

Exit Code = 0

Job: execute.DPR_15 FAILURE 06/14 19:20:20 Run # 782

<Have EXCEEDED the Max # of times (10) to attempt a restart. Something is wrong and needs to be investigated>

Alarm: STARTJOBFAIL Job: execute.DPR_15 06/14 19:18:18 Run #782:9

Exit Code = -655

Figure 14.9-1. Sample Browser Screen

14.9.1 Define Monitors/Browsers

Table 14.9-1 presents (in a condensed format) the steps required to define a monitor or browser. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Monitor/Browser** button on the **AutoSys GUI Control Panel**.
a. The **Monitor/Browser** GUI page is displayed.

3 Enter monitor or browser **<name>** in the **Name** field, then press **Tab.**
a. Monitor/Browser defaults are:
1. **Monitor** for **Mode**.
2. **ALL EVENTS** for **Types of Events**.
3. **ALL Jobs** for **Job Selection Criteria**.

4 **Single-click** on the **Mode** selection of **Monitor** or **Browser**.
a. If **Monitor**, settings are defined for a monitor.
b. If **Browser**, setting are defined for a report.

5 Select **ALL EVENTS** for **Type of Events** by **single-clicking** on the toggle button.

--- OR ---

Select **Alarms** and/or **All Job Status Events** and/or the available individual **Job Status Event**(s) by **single-clicking** on the corresponding button(s).
a. **Job Status Event** options are **Running, Success, Failure, Terminated**.

6 Select desired **Job Selection Criteria** by **single-clicking** on the ToggleButton:
a. Either **All Jobs, Box with its Jobs,** or **Single Job** is selected.
b. If **Single Job** is selected, enter the ***job_name*** in the **Job Name** field.

7 Select the desired **Monitor Options** (if a monitor is being defined) by **single-clicking** on the ToggleButton(s):
a. **Sound** and/or **Verification Required for Alarms** is/are selected.

8 Select the desired **Browser Time Criteria** (if a browser is being defined) by **single-clicking** on either **Yes** or **No** for **Current Run Only.**
a.∞Enter date and time (**MM/DD/YY hh:mm** format) in the **Events After Date/Time** field if **No** was selected for **Current Run Only**.

9 **Single-click** on the **Save** button.
a. Monitor/browser definition is saved to the database.
b. You must **Save** the configuration first before monitor/browser can be viewed.

10 **Single-click** on the **Run MonBro** button to run the monitor/browser that has just been defined.
a. Monitor/browser is displayed in a separate window.

11 Exit **Monitor/Browser** GUI.
a. Single-click on the **Exit** button to exit from the **Monitor/Browser** GUI.

Table 14.9-1. Define Monitors/Browsers - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select the **Monitor/Browser** button	**single-click**

Step	What to Enter or Select	Action to Take
3	Enter monitor or browser **<name>** in the **Name** field	**enter text, press Tab**
4	Select the **Mode** (**Monitor** or **Browser**)	**single-click**
5	Select the desired option(s) in the **Type of Events** area	**single-click**
6	Select the desired option in the **Job Selection Criteria** area and enter job name if applicable	**single-click; enter text** if applicable
7	Select the desired **Monitor Options** (if a monitor is being defined)	**single-click**
8	Select the desired **Browser Time Criteria** (if a browser is being defined) and enter date/time if applicable	**single-click; enter text** if applicable
9	Select the **Save** button	**single-click**
10	Select the **Run MonBro** button to run the monitor/browser that has just been defined	**single-click**
11	Select the **Exit** button to exit from the **Monitor/Browser** GUI	**single-click**

14.9.2 Run Monitor/Browser from the Monitor/Browser GUI

Table 14.9-2 presents (in a condensed format) the steps required to run a previously defined monitor or browser using the **Monitor/Browser** GUI. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Monitor/Browser** button on the **AutoSys GUI Control Panel**.
a. The **Monitor/Browser** GUI page is displayed.

3 Enter monitor or browser **<name>** in the **Name** field if the name is known.

--- OR ---

Enter % (percent sign wild card) in the **Name** field if the name is **not** known, **single-click** on the **Search** button, then **double-click** on the name of the monitor/browser in the list displayed in the dialog box to retrieve the desired monitor/browser definition.

4 **Single-click** on the **Run MonBro** button.
a. Monitor/browser is displayed in a separate window.

5 **Single-click** on the **Exit** button to exit from the **Monitor/Browser** GUI.

6 Enter **Ctrl-C** in the browser/monitor window to exit from the browser or monitor.

Table 14.9-2. Run Monitor/Browser from the Monitor/Browser GUI - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select the **Monitor/Browser** button	**single-click**
3	Enter monitor or browser **<name>** in the **Name** field	**enter text**
4	Select the **Run MonBro** button	**single-click**
5	Select the **Exit** button to exit from the **Monitor/Browser** GUI	**single-click**
6	Enter **Ctrl-C** to exit from a browser or monitor	**enter text, press Enter**

14.9.3 Run Monitor/Browser from the Command Shell

Table 14.9-3 presents (in a condensed format) the steps required to run a previously defined monitor or browser from the command shell. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Open another UNIX (terminal) window.

2 At the UNIX command line prompt enter:

cd /usr/ecs/<MODE>/COTS/autosys/bin

a. Directory path may vary with installation.
b. The command shell prompt is displayed.

3 At the UNIX command line prompt enter:

monbro -N <name> &

a. Refer to the AutoSys Manual for all options and displays for all **monbro** reports.
b.∞The monitor/browser must have been previously defined using the **Monitor/Browser** GUI.

4 Enter **Ctrl-C** to exit from a browser or monitor.

Table 14.9-3. Run Monitor/Browser from the Command Shell - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Open another UNIX (terminal) window	**single-click**
2	Enter **cd /usr/ecs/<MODE>/COTS/autosys/bin**	**enter text, press Enter**
3	Enter **monbro -N <name> &**	**enter text, press Enter**
4	Enter **Ctrl-C** to exit from a browser or monitor	**enter text, press Enter**

14.10 Modify Configuration Files

The procedures in this section concern changing AutoSys Event Processor database maintenance time and modifying the maximum number of jobs in AutoSys.

14.10.1 Change AutoSys Event Processor Database Maintenance Time

Once a day, the Event Processor (also known as the AutoSys daemon) goes into an internal database maintenance cycle. During this time, the Event Processor does not process any events and waits for completion of the maintenance activities before resuming normal operations. The time of day that this maintenance cycle starts up is pre-set to 3:30 PM. If necessary to change the time at which it runs, it should be reset to a time of minimal activity. The time required for the database maintenance cycle is approximately one minute.

Table 14.10-1 presents (in a condensed format) the steps required to modify the AutoSys Event Processor database maintenance time. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 At the UNIX command line prompt enter:

cd /usr/ecs/<MODE>/COTS/<autotree>/autouser

a. Directory path may vary with installation.
b. The command shell prompt is displayed.

2 At the UNIX command line prompt enter:

vi config.<AUTOSERV_INSTANCE>

a. The configuration file is displayed.

3 Find **DBMaintTime=**.

4 Enter the desired time in 24 hour format.

a. New time is entered.

5 Save the file.

Table 14.10-1. Change AutoSys Event Processor Database Maintenance Time - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Enter **cd /usr/ecs/<MODE>/COTS/<autotree>/autouser**	**enter text, press Enter**
2	Enter **vi config.<AUTOSERV_INSTANCE>**	**enter text, press Enter**
3	Find **DBMaintTime=**	**enter text** as necessary
4	Enter the desired time in 24 hour format	**enter text** as necessary
5	Save the file	**enter text** as necessary

14.10.2 Modify the Maximum Number of Jobs in AutoSys

The Production Planner and Production Monitor should work with the Resource Planner to make optimum use of processing resources. The Resource Planner allocates the disk partitions, CPUs, and RAM available for processing among the active modes (e.g., OPS, TS1, TS2). The Production Planner and Production Monitor monitor the load on the processing resources.

The Resource Planner assigns the bulk (typically 60% - 80%) of the processing resources to the OPS mode. The remainder of the processing assets are divided among the modes used for SSI&T and new version software checkout.

The Production Planner and Production Monitor monitor the load on the processing resources to identify whether the actual load is appropriately distributed among modes. They either inform the Resource Planner of under- or over-use of resources as allocated or have the DpPrAutoSysMaxJobs parameter in the EcDpPrJobMgmt.CFG file adjusted.

When monitoring the load on the processing resources, the Production Planner and Production Monitor should take the following considerations into account:

a. Disk space allocated to OPS mode is likely to be used to capacity.
b. Disk space assigned to the other two modes may not fill up.
c. ∞ There is no one-to-one mapping of CPU allocation with actual CPUs on the science processor.
d. The operating system (OS) takes care of true CPU and RAM allocation.
    1. Actual CPU usage during processing is limited by the OS.

2. If ten CPUs have been specified for a particular mode, only ten Data Processing Requests (DPRs) can be running the Execute job at a given time.
3. What is really being defined is the maximum number of DPRs that will execute at a given time.

e. CPUs can be over-allocated or under-allocated as necessary to get the most out of the CPUs on each science processor.
f. If monitoring indicates that the processor is underused when OPS mode is at full processing capacity, the number of CPUs allocated to OPS mode could probably be increased.
g. If the science processor is at full capacity when OPS mode is at full processing capacity (and the processor may be overworked) the number of CPUs allocated to OPS mode should be reduced.
h. Random-access memory (RAM) is subject to the same considerations as CPUs.
1. RAM can be over-allocated or under-allocated as necessary to get the most out of the memory on each science processor.

Another consideration is the throttling of the processing load through the DpPrAutoSysMaxJobs parameter. DpPrAutoSysMaxJobs is defined in the EcDpPrJobMgmt.CFG file in the /usr/ecs/MODE/CUSTOM/cfg directory on the Queuing Server (e.g., g0sps06).

a. If DpPrAutoSysMaxJobs in OPS mode were set at 64 [allowing AutoSys to accommodate eight DPRs (consisting of eight jobs each) simultaneously in OPS mode] and ten CPUs were defined for OPS, it would not be possible to utilize all ten CPUs.
b. If the value of DpPrAutosysMaxJobs were increased to 120 (15 DPRs times 8 jobs/DPR), there might be times when the processing of some DPRs would be held up because only ten could be running the Execute job at a time.
1. In such a case it might be possible to increase the number of CPUs allocated to the mode so that more than ten DPRs could be running the Execute job simultaneously.

Table 14.10-2 presents (in a condensed format) the steps required to modify the the maximum number of jobs in AutoSys. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 At the UNIX command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/cfg

a. The command shell prompt is displayed.

2 At the UNIX command line prompt enter:

vi EcDpPrJobMgmt.CFG

a. The configuration file is displayed by the vi text editor.

3 Find **DpPrAutosysMaxJobs=** using vi commands.

4 Enter the desired maximum number of jobs in AutoSys in the specified mode.
a. New number is entered.

5 Save the file.

6 Repeat Steps 1 through 5 as necessary to modify the values assigned to the **DpPrAutoSysMaxJobs** parameter in other modes.

Table 14.10-2. Modify the Maximum Number of Jobs in AutoSys - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Enter **cd /usr/ecs/<MODE>/CUSTOM/cfg**	**enter text, press Enter**
2	Enter **vi EcDpPrJobMgmt.CFGf**	**enter text, press Enter**
3	Find **DpPrAutosysMaxJobs=**	**enter text** as necessary
4	Enter the desired maximum number of jobs in AutoSys in the specified mode	**enter text** as necessary
5	Save the file	**enter text** as necessary
6	Repeat Steps 1 through 5 as necessary for other modes.	**enter text** as necessary